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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BELLO, AGUSTIN

ART UNIT PAPER NUMBER

2633

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,886

Applicant(s)

CHOUDHARY ET AL.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2005 and 18 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 20-36, 51 and 53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-19, 37-50 and 52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 1-11, 20-36, 51, and 53-53 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/11/05.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12-19, 37-39, 41-43, and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergano (U.S. Patent No. 5,111,322).

Regarding claims 12, 37, Bergano teaches generating a polarized local signal based on receiver-side feedback (column 5 lines 38-44; input to reference numeral 408 in Figure 4); combining an ingress traffic signal with the polarized local signal to generate a combined signal (reference numeral 402 in Figure 4); splitting the combined signal into a first split signal and second split signal (reference numeral 404 in Figure 4); detecting the first split signal; and detecting the second split signal (e.g. “means for recovering” in claim 2).

Regarding claims 13, 38, Bergano inherently teaches that the ingress traffic signal is compensated for polarization mode dispersion (see Figure 4).

Regarding claim 14, Bergano differs from the claimed invention in that Bergano fails to specifically teach that the polarization is circular. However, Bergano discloses that the

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polarization can be any type of polarization (column 3 lines 44-49), which inherently includes circular polarization.

Regarding claims 15, 41, Bergano teaches that the first split signal comprises a first component of the received signal (e.g. "Data 1" in Figure 4).

Regarding claim 16, 42, Bergano teaches that the second split signal comprises a second component of the received signal (e.g. "Data 2" in Figure 4).

Regarding claims 17, 43, Bergano teaches that the ingress traffic is optical (inherent).

Regarding claim 18, Bergano teaches that the combined signal is split by a polarization beam splitter (reference numeral 404 in Figure 4).

Regarding claims 19, 49 Bergano inherently teaches that the polarization of a first component of the ingress traffic signal is aligned to an axis of the polarization beam splitter (inherently in that separation takes place).

Regarding claim 39, Bergano teaches that the signal is received by an automatic polarization controller (reference numeral 402 in Figure 4).

Regarding claim 50, Bergano inherently teaches that the detecting means is a photodiode (inherent in the detection of optical signals).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 40, 44-48 and 52, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergano (U.S. Patent No. 5,111,322).

Regarding claims 40, 45, Bergano differs from the claimed invention in that Bergano fails to specifically teach that the appropriate polarization of the signal is circular. However, it is clear that the signal could have been polarized in any of a variety of manners, including circular polarization.

Regarding claim 44, Bergano differs from the claimed invention in that Bergano fails to specifically teach that the local signal is provided by a continuous wave laser. However, the use of continuous wave lasers as local signals is well known in the art and would have been obvious to one skilled in the art at the time the invention was made.

Regarding claim 46, Bergano differs from the claimed invention in that Bergano fails to specifically teach that a quarter-wave plate controls the polarization of the system. However, the use of quarter-wave plates to control polarization is well known in the art. One skilled in the art would have been motivated to use a quarter-wave plate control the polarization of the system since they are readily available and relatively inexpensive. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ a quarter-wave plate as the polarization controllers of the system of Bergano.

Regarding claims 47-48, Bergano differs from the claimed invention in that Bergano fails to specifically teach that the combiner is a half-mirror or a 3dB splitter. However, both types of combiners are well known in the art and readily available. One skilled in the art would have been motivated to employ wither one in order to meet a design requirement or to use what was

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available at the time. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ either a half-mirror or a 3dB splitter in the system of Bergano.

Claim 52 recites a combination of individually rejected elements and is therefore rejected on the same grounds as stated above.

Response to Arguments

6. Applicant's arguments filed 3/18/05 have been fully considered but they are not persuasive. The applicant argues that Bergano fails to specifically teach generating a polarized local signal and combining the polarized local signal with an ingress traffic signal. However, the examiner disagrees. Bergano clearly discloses generating a polarized local signal in that a sample, itself polarized, is taken from the polarized light signal output on branch 406 in Figure 4. This polarized sample is then converted into an electrical polarized local sample signal, filtered, and then combined with the ingress traffic signal. The combination of the polarized local signal with the ingress traffic signal takes place via the polarization controller 402 wherein the electrical polarized local sample signal is modulated onto the ingress traffic signal, i.e. "dither" of column 5 lines 38-44, hence combining the polarized local signal with the ingress traffic signal when given the broadest reasonable interpretation.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB


AGUSTIN BELLO
PRIMARY EXAMINER